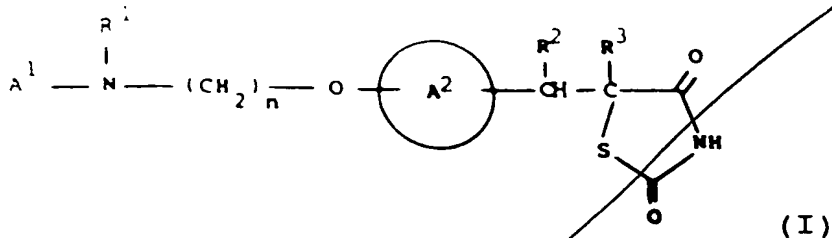


Claims

1. A compound of formula (I):



or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof, wherein:

A¹ represents a substituted or unsubstituted aromatic heterocyclyl group;

R¹ represents a hydrogen atom, an alkyl group, an acyl group, an aralkyl group, wherein the aryl moiety may be substituted or unsubstituted, or a substituted or unsubstituted aryl group;

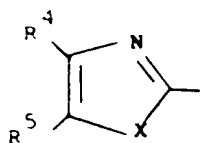
R² and R³ each represent hydrogen, or R² and R³ together represent a bond;

A² represents a benzene ring having in total up to five substituents; and

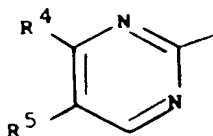
n represents an integer in the range of from 2 to 6.

2. A compound according to claim 1, wherein A¹ represents a substituted or unsubstituted, single or fused ring aromatic heterocyclyl group comprising up to 4 hetero atoms in the ring selected from oxygen, sulphur or nitrogen.

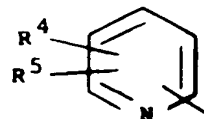
3. A compound according to claim 1, wherein A¹ represents a moiety of formula (a), (b) or (c):



(a)



(b)



(c)

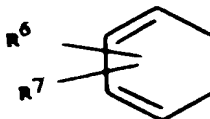
wherein:

R⁴ and R⁵ each independently represents a hydrogen atom, an alkyl group or a substituted or unsubstituted aryl group or when R⁴ and R⁵ are each attached to a carbon atom, then R⁴ and R⁵ together with the carbon atoms to which they are attached form a benzene ring wherein each carbon atom represented by R⁴ and R⁵ together may be substituted or unsubstituted; and in the moiety of formula (a)

X represents oxygen or sulphur.

4. A compound according to claim 3, wherein R⁴ and R⁵ each independently represent hydrogen, alkyl or a substituted or unsubstituted phenyl group.

5. A compound according to claim 3, wherein R⁴ and R⁵ together represent a moiety of formula (d):

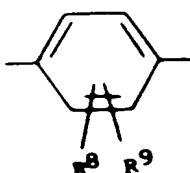


(d)

wherein R⁶ and R⁷ each independently represent hydrogen, halogen, substituted or unsubstituted alkyl or alkoxy.

6. A compound according to claim 5, wherein R⁶ and R⁷ both represent hydrogen.

7. A compound according to claim ~~5~~¹, wherein A² represents a moiety of formula (e):

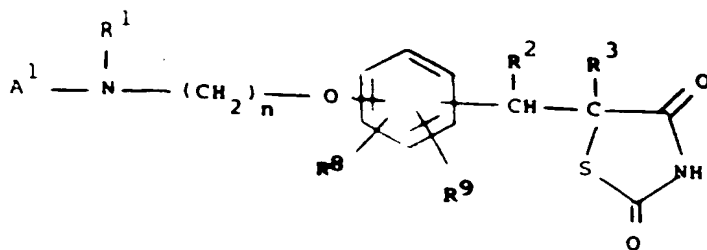


(e)

wherein R⁸ and R⁹ each independently represent hydrogen, halogen, substituted or unsubstituted alkyl or alkoxy.

8. A compound according to claim 7, wherein R⁸ and R⁹ each represent hydrogen.

9. A compound according to claim ~~7~~¹, of formula (II):



(II)

or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof, wherein A¹, R¹, R², R³ and n are as defined in relation to formula (I) in claim 1 and R⁸ and R⁹ are as defined in relation to formula (e) in claim 7.

10. A compound according to claim ~~1~~⁵², wherein n represents an integer 2 or 3.

11. A compound according to claim ~~1~~⁵², wherein R¹ represents a methyl group.

12. A compound according to claim ~~1~~⁵², selected from the group consisting of:

5-(4-[2-(N-methyl-N-(2-benzothiazolyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-(2-benzothiazolyl)amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-(2-benzoxazolyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-(2-benzoxazolyl)amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-(2-pyrimidinyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-(2-pyrimidinyl)amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

5-(4-(2-(N-methyl-N-[2-(4,5-dimethylthiazolyl)]amino)ethoxy]benzyl)-2,4-thiazolidinedione;

5-(4-[2-(N-methyl-N-[2-(4,5-dimethylthiazolyl)]amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

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03 Pl 5-(4-[2-(N-methyl-N-(2-thiazolyl)amino)ethoxy]benzyl)
04 -2,4-thiazolidinedione;

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06 Pl 5-(4-[2-(N-methyl-N-(2-thiazolyl)amino)ethoxy]
07 benzylidene)-2,4-thiazolidinedione;

08
09 Pl 5-[4-(2-(N-methyl-N-(2-(4-phenylthiazolyl))amino)
10 ethoxy]benzyl]-2,4-thiazolidinedione;

11
12 Pl 5-(4-[2-(N-methyl-N-(2-(4-phenylthiazolyl))amino)
13 ethoxy]benzylidene)-2,4-thiazolidinedione;

14
15 Pl 5-(4-[2-(N-methyl-N-[2-(4-phenyl-5-methylthiazolyl)]
16 amino)ethoxy]benzyl)-2,4-thiazolidinedione;

17
18 Pl 5-(4-[2-(N-methyl-N-[2-(4-phenyl-5-methylthiazolyl)]
19 amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

20
21 Pl 5-(4-[2-(N-methyl-N-[2-(4-methyl-5-phenylthiazolyl)]
22 amino)ethoxy]benzyl)-2,4-thiazolidinedione;

23
24 Pl 5-(4-[2-(N-methyl-N-[2-(4-methyl-5-phenylthiazolyl)]
25 amino)ethoxy]benzylidene)-2,4-thiazolidinedione;

26
27 Pl 5-(4-[2-(N-methyl-N-[2-(4-methylthiazolyl)]
28 amino)ethoxy]benzyl)-2,4-thiazolidinedione;

29
30 Pl 5-(4-[2-(N-methyl-N-[2-(4-methylthiazolyl)]amino)
31 ethoxy]benzylidene)-2,4-thiazolidinedione;

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33 Pl 5-[4-(2-(N-methyl-N-[2-(5-phenyloxazolyl)]amino)
34 ethoxy]benzyl]-2,4-thiazolidinedione;

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03 Pi 5-(4-[2-(N-methyl-N-[2-(5-phenyloxazolyl)]amino)
04 ethoxy]benzylidene)-2,4-thiazolidinedione;
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06 Pi 5-(4-[2-(N-methyl-N-[2-(4,5-dimethyloxazolyl)]amino)
07 ethoxy]benzyl)-2,4-thiazolidinedione;
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09 Pi 5-(4-[2-(N-methyl-N-[2-(4,5-dimethyloxazolyl)]amino)-
10 ethoxy]benzylidene)-2,4-thiazolidinedione;
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12 Pi 5-[4-(2-(2-pyrimidinylamino)ethoxy)benzyl]-2,4-
13 thiazolidinedione;
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15 Pi 5-[4-(2-(2-pyrimidinylamino)ethoxy)benzylidene]-2,4-
16 thiazolidinedione;
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18 Pi 5-(4-[2-(N-acetyl-N-(2-pyrimidinyl)amino)ethoxy]benzyl)
19 -2,4-thiazolidinedione;
20

21 Pi 5-(4-(2-(N-(2-benzothiazolyl)-N-benzylamino)ethoxy)
22 benzylidene)-2,4-thiazolidinedione;
23

24 Pi 5-(4-(2-(N-(2-benzothiazolyl)-N-benzylamino)ethoxy)
25 benzyl)-2,4-thiazolidinedione;
26

27 Pi 5-(4-[3-(N-methyl-N-(2-benzoxazolyl)amino)propoxy]
28 benzyl)-2,4-thiazolidinedione;
29

30 Pi 5-(4-[3-(N-methyl-N-(2-benzoxazolyl)amino)propoxy]benzy
31 lidene)-2,4-thiazolidinedione;
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33 Pi 5-(4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl)-
34 2,4-thiazolidinedione;
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03 Pl 5-(4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl-
04 idene)-2,4-thiazolidinedione;

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06 Pl 5-(4-[4-(N-methyl-N-(2-benzoxazolyl)amino)butoxy]
07 benzylidene)-2,4-thiazolidinedione;

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09 Pl 5-(4-[4-(N-methyl-N-(2-benzoxazolyl)amino)butoxy]-
10 benzyl)-2,4-thiazolidinedione;

11
12 Pl 5-(4-[2-(N-(2-benzoxazolyl)amino)ethoxy]benzylidene)-
13 2,4-thiazolidinedione;

14
15 Pl 5-(4-[2-(N-(2-benzoxazolyl)amino)ethoxy]benzyl)-2,
16 4-thiazolidinedione; and

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18 Pl 5-(4-[2-(N-isopropyl-N-(2-benzoxazolyl)amino)ethoxy]
19 benzyl)-2,4-thiazolidinedione; or a tautomeric form
20 thereof and/or a pharmaceutically acceptable salt
21 thereof and/or a pharmaceutically acceptable solvate
22 thereof.

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24 ✓ 13. A compound according to claim ~~5~~¹ being
25 5-(4-[2-(N-methyl-N-(2-benzothiazolyl)amino)ethoxy]-
26 benzyl)-2,4-thiazolidinedione; or a tautomeric form
27 thereof and/or a pharmaceutically acceptable salt
28 thereof and/or a pharmaceutically acceptable solvate
29 thereof.

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31 14. A compound according to claim ~~5~~¹ being
32 ✓ 5-(4-[2-(N-methyl-N-(2-benzothiazolyl)amino)ethoxy]-
33 benzylidene)-2,4-thiazolidinedione; or a tautomeric
34 form thereof and/or a pharmaceutically acceptable salt
35 thereof and/or a pharmaceutically acceptable solvate

thereof.

15. A compound according to claim ~~1~~⁵² being
5-(4-[2-(N-methyl-N-(2-benzoxazolyl)amino)ethoxy]-
benzyl)-2,4-thiazolidinedione; or a tautomeric form
thereof and/or a pharmaceutically acceptable salt
thereof and/or a pharmaceutically acceptable solvate
thereof.

16. A compound according to claim ~~2~~⁵² being
5-(4-[2-(N-methyl-N-(2-benzoxazolyl)amino)ethoxy]-
benzylidene)-2,4-thiazolidinedione; or a tautomeric
form thereof and/or a pharmaceutically acceptable salt
thereof and/or a pharmaceutically acceptable solvate
thereof.

17. A compound according to claim ~~3~~⁵² being
5-(4-[2-(N-methyl-N-(2-pyrimidinyl)amino)ethoxy]-
benzyl)-2,4-thiazolidinedione; or a tautomeric form
thereof and/or a pharmaceutically acceptable salt
thereof and/or a pharmaceutically acceptable solvate
thereof.

18. A compound according to claim ~~4~~⁵² being
5-(4-[2-(N-methyl-N-(2-pyrimidinyl)amino)ethoxy]-
benzylidene)-2,4-thiazolidinedione; or a tautomeric
form thereof and/or a pharmaceutically acceptable salt
thereof and/or a pharmaceutically acceptable solvate
thereof.

19. A compound according to claim ~~5~~⁵² being
5-(4-(2-(N-methyl-N-[2-(4,5-dimethylthiazolyl)]amino)-
ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric
form thereof and/or a pharmaceutically acceptable salt

thereof and/or a pharmaceutically acceptable solvate thereof.

20. A compound according to claim ⁵⁰1 being 5-(4-[2-(N-methyl-N-[2-(4,5-dimethylthiazolyl)]amino)-ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

21. A compound according to claim ⁵⁰2 being 5-(4-[2-(N-methyl-N-(2-thiazolyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

22. A compound according to claim ⁵⁰3 being 5-(4-[2-(N-methyl-N-(2-thiazolyl)amino)ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

23. A compound according to claim ⁵⁰4 being 5-[4-(2-(N-methyl-N-(2-(4-phenylthiazolyl))amino)-ethoxy)benzyl]-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

24. A compound according to claim ⁵⁰5 being 5-(4-[2-(N-methyl-N-(2-(4-phenylthiazolyl))amino)-ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically

acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

25. A compound according to claim 1 being 5-(4-[2-(N-methyl-N-[2-(4-phenyl-5-methylthiazolyl)]-amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

26. A compound according to claim 2 being 5-(4-[2-(N-methyl-N-[2-(4-phenyl-5-methylthiazolyl)]-amino)ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

27. A compound according to claim 3 being 5-(4-[2-(N-methyl-N-[2-(4-methyl-5-phenylthiazolyl)]-amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

28. A compound according to claim 4 being 5-(4-[2-(N-methyl-N-[2-(4-methyl-5-phenylthiazolyl)]-amino)ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

29. A compound according to claim 5 being 5-(4-[2-(N-methyl-N-[2-(4-methylthiazolyl)]-amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a

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tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

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30. A compound according to claim ~~1~~ being 5-(4-[2-(N-methyl-N-[2-(4-methylthiazolyl)]amino)-ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

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31. A compound according to claim ~~1~~ being 5-[4-(2-(N-methyl-N-[2-(5-phenyloxazolyl)]amino)-ethoxy)benzyl]-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

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32. A compound according to claim ~~1~~ being 5-(4-[2-(N-methyl-N-[2-(5-phenyloxazolyl)]amino)-ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

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33. A compound according to claim ~~1~~ being 5-(4-[2-(N-methyl-N-[2-(4,5-dimethyloxazolyl)]amino)-ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

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34. A compound according to claim ~~1~~ being 5-(4-[2-(N-methyl-N-[2-(4,5-dimethyloxazolyl)]amino)-

ethoxy]benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

35. A compound according to claim 1 being 5-[4-(2-(2-pyrimidinylamino)ethoxy)benzyl]-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

36. A compound according to claim 1 being 5-[4-(2-(2-pyrimidinylamino)ethoxy)benzylidene]-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

37. A compound according to claim 1 being 5-(4-[2-(N-acetyl-N-(2-pyrimidinyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

38. A compound according to claim 1 being 5-(4-(2-(N-(2-benzothiazolyl)-N-benzylamino)ethoxy)benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

39. A compound according to claim 1 being 5-(4-(2-(N-(2-benzothiazolyl)-N-benzylamino)ethoxy)benzyl)-2,4-thiazolidinedione; or a tautomeric form

thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

40. A compound according to claim 1 being 5-(4-[3-(N-methyl-N-(2-benzoxazolyl)amino)propoxy]-benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

41. A compound according to claim 1 being 5-(4-[3-(N-methyl-N-(2-benzoxazolyl)amino)propoxy]-benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

42. A compound according to claim 1 being 5-(4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

43. A compound according to claim 1 being 5-(4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]-benzylidene)-2,4-thiazolidinedione; or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof.

44. A compound according to claim 1 being 5-(4-[4-(N-methyl-N-(2-benzoxazolyl)amino)-butoxy]benzylidene)-2,4-thiazolidinedione; or a

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03 tautomeric form thereof and/or a pharmaceutically
04 acceptable salt thereof and/or a pharmaceutically
05 acceptable solvate thereof.
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07 ✓ 45. A compound according to claim ¹~~52~~ being
08 5-(4-[4-(N-methyl-N-(2-benzoxazolyl)amino)-
09 butoxy]-benzyl)-2,4-thiazolidinedione; or a tautomeric
10 form thereof and/or a pharmaceutically acceptable salt
11 thereof and/or a pharmaceutically acceptable solvate
12 thereof.
13

14 ✓ 46. A compound according to claim ¹~~52~~ being
15 5-(4-[2-(N-(2-benzoxazolyl)amino)ethoxy]-
16 benzylidene)-2,4-thiazolidinedione; or a tautomeric
17 form thereof and/or a pharmaceutically acceptable salt
18 thereof and/or a pharmaceutically acceptable solvate
19 thereof.
20

21 ✓ 47. A compound according to claim ¹~~52~~ being
22 5-(4-[2-(N-(2-benzoxazolyl)amino)ethoxy]-
23 benzyl)-2,4-thiazolidinedione; or a tautomeric form
24 thereof and/or a pharmaceutically acceptable salt
25 thereof and/or a pharmaceutically acceptable solvate
26 thereof.
27

28 ✓ 48. A compound according to claim ¹~~52~~ being
29 5-(4-[2-(N-isopropyl-N-(2-benzoxazolyl)amino)-
30 ethoxy]benzyl)-2,4-thiazolidinedione; or a tautomeric
31 form thereof and/or a pharmaceutically acceptable salt
32 thereof and/or a pharmaceutically acceptable solvate
33 thereof.
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35 49. A pharmaceutical composition comprising a
36 compound of formula (I) according to claim 1, or a
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tautomeric form thereof or a pharmaceutically acceptable salt thereof or pharmaceutically acceptable solvate thereof, and a pharmaceutically acceptable carrier therefor.

53.

A method for the treatment and/or prophylaxis of hyperglycaemia in a human or non-human mammal which comprises administering an effective, non-toxic, amount of a compound of formula (I) according to claim 1, or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof, to a hyperglycaemic human or non-human mammal in need thereof.

54.

A method for the treatment of hyperlipidaemia in a human or non-human mammal, which comprises administering an effective, non-toxic, amount of a compound of formula (I) according to claim 1, or a tautomeric form thereof and/or a pharmaceutically acceptable salt thereof and/or a pharmaceutically acceptable solvate thereof, to a hyperlipidaemic human or non-human mammal in need thereof.